



State of New Jersey

Christine Todd Whitman
Governor

Department of Environmental Protection

Robert C. Shinn, Jr.
Commissioner

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
NO. _____

NOV 23 1994

Mr. Louis A. Fantin, Esq, Vice President
Lenox Incorporated
100 Lenox Drive
Lawrenceville, N.J. 08648-2394

Dear Mr. Fantin:

Re: Lenox China, Inc.; Ground Water Corrective Action System
Galloway Township, Atlantic County

The New Jersey Department of Environmental Protection (Department) and the U.S. Environmental Protection Agency (EPA) have reviewed a correspondence prepared by Eder Associates on behalf of Lenox China Incorporated (Lenox) dated November 2, 1994. The NJDEP and EPA have concluded that at a minimum, four (4) paired piezometers placed down gradient of recovery wells shall be installed to assess the effectiveness of the ground water corrective action system. The basis for that decision is contained in the discussion below:

The Department and EPA have reviewed the technical rationale document submitted by Lenox to verify that the TCE contaminated ground water plume emanating from the Lenox site is being fully captured by the recovery well system. This document was generated in response to the Department's concerns about whether the remediation system was fully capturing the TCE plumes and the delineation of the down gradient limit of the capture zone(s).

Lenox demonstrates the effectiveness of the remediation system by making a comparison of the daily volume of water passing through the area bounded by the recovery wells during nonpumping conditions with the daily volume of water being extracted by the recovery wells. Lenox calculates that the amount of water captured by the system far exceeds the amount passing through the area bounded by the recovery system (345,600 gallons per day versus 101,115 gallons per day).



While these calculations indicate a great amount of water is being extracted by the recovery system, it does not address one of the major concerns of the regulatory agencies, which is verifying the existence of a capture zone down gradient of the system.

A Department requirement in evaluating the effectiveness of pump-and-treat performances is to show that a reversal in ground water flow direction has occurred at some point down gradient of the recovery well network. This can be accomplished by installing paired piezometers down gradient of the recovery well network and monitoring water-level data to verify that hydraulic head is lowered and an inward hydraulic gradient exists toward the recovery wells. The Department and EPA agree that the purpose of the TCE recovery system is to prevent ground water from migrating beyond the recovery wells, not necessarily to capture TCE which has migrated beyond the recovery wells before system startup.

In a letter dated October 24, 1994, the Department recommended the installation of paired well points down gradient of each recovery well (RW-2 through RW-7). After further evaluation, the Department has decided to reduce the amount of paired well points recommended for the site. The suggested locations are outlined below.

- a) down gradient area of RW-2 and RW-3
- b) directly down gradient of RW-4
- c) down gradient area of RW-5 and RW-6
- d) directly down gradient of RW-7

Capture zone analyses using pump test and ground water elevation data should be used by Lenox to better position the well point locations.

Should you have any questions, please contact me at (609) 633-1455.

Sincerely,



Frank Faranca, Project Manager
Bureau of Federal Case Management

- c: Andrew Park, USEPA, Region II
- Daryl Clark, NJDEPE/DPFSR/BGWPA
- Todd DeJesus, Pinelands Commission
- Sean Clancy, ACHD
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